the same time, genres have some unique qualities that add to the socioculturalist account of artifacts, qualities that make them valuable in conducting the integrated-scope analysis I have in mind.

In the tradition of the North American genre school (see Russell 1997b, 226), genres have been defined as a typified rhetorical response to a recurring social situation (Miller 1984); shared expectations for recognizing how certain tools in certain conditions can help people act purposefully in an activity (Russell 1997a); "socially recognized types of communicative actions used by organizational members for particular communicative and collaborative purposes" (Yates and Orlikowski 2002, 14); and in similar ways. These definitions and others are barking up pretty much the same tree. A quick reading might lead us to think that genres are merely artifact types (see Brown and Duguid 1994). But that is not quite accurate. What is too often underemphasized is genre’s role as a sort of tradition.

When I characterize genre as a tradition, I draw from the work of Mikhail Bakhtin, whose work underpins the North American genre school’s. Bakhtin and the members of his circle (P. N. Medvedev and V. N. Voloshinov) emphasized that genres are not simply text types; they are culturally and historically grounded ways of “seeing and conceptualizing reality” (Medvedev and Bakhtin 1978, 134). Genre, then, is more than a concrete psychological theory or a material embodiment of recurrent activity. Genres are not discrete artifacts, but traditions of producing, using, and interpreting artifacts, traditions that make their way into the artifact as a “form-shaping ideology” (Morson and Emerson 1990, 282–284). That is, they emerge from cultural-historical activity and represent, reflect, stabilize, and help constitute that activity (G. Smart 2002). In terms of cognition, they represent the “thinking out” of solutions just as artifacts do (see Bakhtin 1984, 270). But they also represent the development and stabilization of worldviews, including the values, ethics, and other humanistic concerns implied in them. As Morson and Emerson (1990, 291–292) argue,

Each genre implies a set of values, a way of thinking about kinds of experience, and an intuition about the appropriateness of applying the genres in any given context. An enormous amount of unfinished cognitive content is acquired each time we learn a new kind of social activity with its attendant genres, content whose very nature has remained largely unexamined.
Genres convey a worldview, not by laying out a set of explicit propositions, but by "developing concrete examples" that "allow the reader to view the world in a specific way" (Morson and Emerson 1990, 282). And not just the reader: "Each author who contributes to the genre learns to experience the world in the genre's way" (p. 282). Bakhtin develops this understanding of genre in his discussions of the novel and other literary genres, but we can easily see how nonliterary genres also convey worldviews. To pick two genres related to the studies in chapters 3 through 5: recommendation reports tend to conceive of the world in terms of problems that must be solved by applying clearly defined criteria to a particular set of data (Rude 1995), while maps view the world in ways that collapse space and ideology (Barton and Barton 1993).

With the tradition aspect of genre in mind, we can talk about genres mingling, merging, splitting, disintegrating, and being repurposed. Genre provides a way of lending dimension to the genetic aspects of given artifacts—to make connections among discrete artifacts that, on the surface, may bear little resemblance to each other (see Russell 1997b, 226). Genre is thus much more than a category of artifact. Yes, the dialog boxes encountered by Ellen and Rod in the epigraph can indeed be seen as an artifact category. But as we will see in chapter 3, these dialog boxes are also genetically related to the paper forms that workers once had to fill out. In a cultural-genetic sense, the dialog boxes continue the tradition of the forms that preceded them. They are not the same artifact, and indeed some might be inclined to see them as metaphors for the older paper forms (see Spinuzzi 2001b). But they are at least partially the same genre and imply the same worldview, the same understanding of the activity and what it values.

People develop genres so that they can accomplish activities. As those activities change, the genres also change (Bakhtin 1981, 1986). It is for that reason that genre is considered a relatively stable type of utterance. This is where the notion of genre memory becomes important: as cultural and literary traditions, genres convey and "remember" the past. Morson and Emerson (1990, 290) characterize genre as "the residue of past behavior, an accretion that shapes, guides, and constrains future behavior."

Genres are doubly oriented: they are oriented toward history and addressivity. In regard to history, genre represents ways that participants in a given social sphere have developed to deal with particular activities within that sphere. These strategies do not spring up ex nihilo for each speaker. Each speaker is in some degree a respondent, not the "first speaker" (Bakhtin 1981, 69). In other words, genres are the result of an ongoing dialogue among speakers in a particular sphere of activity, and the past dialogue of those speakers imposes itself on present speakers in ways they might not even recognize:

A genre is always the same and yet not the same, always old and new simultaneously... A genre lives in the present, but always remembers its past, its beginning. Genre is a representative of creative memory in the process of literary development. Precisely for this reason genre is capable of generating the unity and uninterrupted continuity of this development. (Bakhtin 1984, 87)

Genre is thus a sort of social memory that its practitioners accept without their explicit recognition that they are doing so. Such genre habits are extremely powerful because they provide us with ready-made strategies for interpreting not just discourse in a genre, but the world as seen through the "eyes" of that genre (Medvedev and Bakhtin 1978, 133–135). Bakhtin (1981, 249) clarifies this idea further:

Cultural and literary traditions (including the most ancient) are preserved and continue to live not in the individual subjective memory of a single individual and not in some collective "psyche," but rather in the objective forms that culture itself assumes (including the forms of language and social speech), and in this sense they are inter-subjective and inter-individual (and consequently social); from there they enter literary works, sometimes almost completely bypassing the subjective individual memory of their creators.

The genre embodies a galaxy of assumptions, strategies, and ideological orientations that the individual speaker may not recognize. It represents others' "thinking out" of problems whose dialogue has been preserved in the genre. (Examples can be found in Bazerman 1988; Berkenkotter and Huckin 1994; Yates 1989.)

Genres, although temporarily stabilized social constructs, are also dynamic and reshappable by any speaker for her or his specific utterance. Utterances are unique and unrepeatable as a function of the speech situation in which they are uttered; by the same token, genres are mutable in that they are made by their speakers to address specific speech situations.
This *addressivity* can manifest itself in something so minor as a change in tone or a use of irony, and as significant as the very selection of genre, a blurring among genres, or an introduction of new elements to an existing genre that help it to perform its functions better. One example of the latter is Charles Bazerman’s (1988) study of the genre of the experimental article, in which he chronicles how this genre gradually crystallized, in part to substitute for the lack of eyewitnesses (who once were customarily present at experiments).

When I use the term *genre* in this book, as in most North American genre scholarship, there is some necessary slippage because a given artifact can be seen as an instantiation of a genre (or, as we will see in chapter 5, of multiple genres). For instance, in the headnote, Rod is working with a dialog box, an instance of the dialog-box genre. In the chapter 1 headnote, Barbara uses a map and a handwritten note, both of which are artifacts that are instances of genres. In both situations, the artifacts are connected—in their production, interpretation, use, and modification—to larger traditions of use, traditions that have developed in given sociocultural milieus to mediate activities within these milieus. In the studies in chapters 3 through 5, I depict this slippage in activity system diagrams by placing genre instances in the *instruments* slot and genre knowledge in the *domain knowledge* slot. The confluence of these two points is what Russell (1997a) and others refer to when they talk about genre as a “tool-in-use.”

North American genre theorists are generally in agreement with the characterization of genre above. But they have focused on different aspects of genre in their theoretical and empirical work—significantly, aspects that occur at different levels of scope, although some overlapping occurs (see table 2.2). Below, I discuss how they have examined these aspects and how their work can be drawn together to understand genre as an integrated-scope unit of analysis.

**Table 2.2**

<table>
<thead>
<tr>
<th>Level</th>
<th>Activity theory term</th>
<th>Genre conception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroscopic</td>
<td>Activity</td>
<td>Genre as social memory (Bakhtin 1984, 1986), genre as shaping and shaped by sustained disciplinary activity (Bazerman 1988; Yates 1989), genre as social action (Miller 1984)</td>
</tr>
<tr>
<td></td>
<td>(cultural-historical, unconscious)</td>
<td></td>
</tr>
<tr>
<td>Mesoscopic</td>
<td>Action (goal-directed, conscious)</td>
<td>Genre as tool-in-use (Russell 1995, 1997a), genre as constellations of strategies (Schryer 1993, 2000), genres as tactics (Hovde 2000)</td>
</tr>
<tr>
<td>Microscopic</td>
<td>Operation (habitual, unconscious)</td>
<td>Genre as coherent collection of habits (Spinuzzi 2001a), genre as operational rules (Engeström 1995; Russell 1997a), genre as structuring work (Bazerman 1997), genre as distributed cognition (Freedman and Smart 1997; Syverson 1999)</td>
</tr>
</tbody>
</table>

seen in the above discussion how genres “remember” their past (Bakhtin 1984, 106) and how they pull it into the present along with an entire worldview that is applied to the present activity—but also how, in addressing the present activity, genres continue to develop. A given genre may remember its past, but it “lives in the present” (p. 106). In examining genres, then, we can gain an overall understanding of the activities they have historically mediated. At the macroscopic level, genres are frequently examined and compared diachronically (Bazerman 1988; Berkenkotter and Huckin 1995; Yates 1989), and sometimes in terms of how they connect individuals’ personal histories of writing with their assimilation into disciplines and organizations (Berkenkotter and Huckin 1995; Myers 1990; Prior and Shipka 2002; Schryer 1993; Winsor 1996), with the attendant changes in objectives, values, and ethics.

**Genre at the Macroscopic Level** At the level of *activity*, genre is seen as shaping and being shaped by its sociocultural milieu. As Bazerman (1988) argues, genres develop in a given activity and evolve as the activity evolves. Thus genre analysis has often been used to investigate the recurring organizational activities in which genres are used. We have

**Genre at the Mesoscopic Level** At the level of *action*, genre has variously been described as a tool-in-use (Russell 1997a), a stabilized-for-now site
of social or ideological action (Schryer 1993), and a constellation of strategies or tactics (Schryer 2000; Hovde 2000). Researchers working with this concept of genre tend to examine written documents, interfaces, and even nontextual artifacts such as telephones (Brown and Duguid 1994) as genre instances that workers consciously select, interpret, produce, and use to mediate their goal-directed actions. Genre at this level of scope is typically taken to be instantiated in an artifact—usually a text—that is used to meet an actor’s goals. When goals change, actors might choose to abandon the genre for another, more amenable one. For instance, in her ethnographic study of how faculty at a veterinary college taught students a system for keeping medical records, Catherine Schryer (1993, 228) found that students consciously chose to use the school-sanctioned records genre in class, but many planned to discontinue it in practice because it was too cumbersome.

Genre at the Microscopic Level At the level of operation, genre is conceived as a coherent collection of habits (Spinuzzi 2001a), as operationalized rules (Engeström 1995; Russell 1997a), and as the typification of talk used to maintain regularity and structure of work (Bazerman 1997). Researchers working with this concept have tended to see genre as a set of operationalized actions that, once learned, serve as coherent sets of operations that can be unconsciously drawn on to perform familiar, repeated tasks. Russell (1997a, 515) describes it this way: “Put in simplest terms, a genre is the ongoing use of certain material tools (marks, in the case of written genres) in certain ways that worked once and might work again, a typified tool-mediated response to conditions recognized by participants as recurring.” For those familiar with the genre, this typified response is an operationalized action: “The first time one takes the action of using a new tool (whether a clutch pedal or a semicolon), it requires a conscious decision to act, but with repeated use, it may become a routine operation, usually unconscious.”

As Russell’s article illustrates, theoretical studies in this vein tend to emphasize situated, condition-triggered uses of genres. Empirical studies in the same vein tend to examine workers’ fine-grained, moment-by-moment operations—particularly those that contribute to interpretation (Freedman and Smart, 1997)—and ways in which destabilizations of genre features can disrupt these operations (Engeström 1995).

Integrating Genre: Toward an Integrated-Scope Unit of Analysis These conceptions of genre at the different levels of scope are different, yet reconcilable. That cross-scope flexibility has made genre a useful framework for guiding research, particularly in technical communication, a field that takes as a central focus the typified ways people communicate at work (Miller 1984). Indeed, the wealth of scholarship examining genres at different levels means that a genre-based methodology has plenty of established methods from which to draw as it identifies and analyzes genres. Thus, an integrated-scope understanding of genre yields a unit of analysis uniquely suited for integrated-scope research in information design. That unit of analysis allows us to tackle the problem of unIntegrated scope, since we can trace a given genre or group of genres across the levels of scope, observing how they interact at each level.

FROM GENRES TO GENRE ECOLOGIES

The notion of genre provides a strong base for examining how workers use information systems to mediate their work. In this section, I build on that base by examining compound mediation, the use of several coordinated mediational means in an activity. I also discuss systematic destabilizations, the insight that if the levels of scope coconstitute each other, then destabilizations (usability problems) at one level of scope necessarily coconstitute destabilizations at the other levels of scope. As I discuss these two concepts, I draw examples from the studies in chapters 3 through 5.

Compound Mediation

In chapter 3 we will see that one central insight of genre tracing is that people’s activities—at all three levels of scope—are mediated in multiple ways by dynamic, shifting collections of genres. Compound mediation can be defined broadly as “the ways that workers coordinate sets of
artifacts to help them get their jobs done" (Spinuzzi 2001c, 58; see also Spinuzzi 2002a, 2002d; cf. Johnson-Eilola 2001 for a discussion in a somewhat different tradition). For instance, city engineers in Iowa tend to use a particular sort of map, a node map, to help them determine whether particular roads need traffic signals at a given intersection. Maps are mediational genres, representations that have developed through repeated use to help workers visualize the data in useful ways. The object of their work is the traffic data, which workers intend to transform in ways that will help them meet larger objects (such as making decisions that can lead to safer streets).

Mediational genres can be produced by information designers, but they are also frequently developed by the workers themselves. For instance, many workers that I observed (including workers in law enforcement, traffic safety, and city or county engineering) developed their own system of handwritten notes to help mediate their activity. These genres were identifiable because they were regularly used in certain ways to accomplish certain actions—for instance, to structure how workers interacted with a database of traffic accidents.

Communities, then, develop genres over time to mediate relatively stable, cyclical activities. As those activities change, the genres also change (Bakhtin 1981, 1986). Genre thus represents the community's history of problem solving; its solutions are preserved in its genres (e.g., Bazarin 1988; Berkenkotter and Huckin 1995; Yates 1989), making it possible for us to trace genres across historical eras as well as across levels of scope, as I demonstrate in chapter 3. Since they represent the distributed problem solving of a community, genres can be seen as examples of distributed cognition (Freedman and Smart 1997; see also Syverson 1999; Hutchins 1995).

Any given genre is used to mediate activities in one or more activity systems. But it does not and cannot do the work of mediation all by itself—genres are oriented to different sorts of problems and have developed relatively stable connections or coordinations with other genres. For example, in this chapter's epigraph, Ellen and Rod use the dialog box in coordination with other genres: maps, reports, node tables, and a host of others. Activities are mediated by an entire dynamic, shifting ecology of different genres (Spinuzzi and Zachry 2000), each with its own history, its own origin, and its own worldview and ideological orientation. Genre tracing provides us with insights into how such ecologies of genres jointly mediate the workers' operations, actions, and activities.

Systemic Destabilizations

Each genre in the ecology, as we saw in the previous sub-section, can be traced across all levels of scope. So can systemic destabilizations involving those genres. User-centered design is preoccupied with detecting destabilizations, conceived as design or usability problems. There is a good reason: destabilizations may cause workers to draw incorrect inferences, for instance, and in the case of traffic workers, the repercussions of such inferences may include traffic accidents, injuries, and deaths. Scope field methods can help to detect such destabilizations, but since they tend to see destabilizations as merely symptoms of this crux. They follow the destabilizations only so far, and thus they miss the reverberations that each destabilization triggers in the activity. So they offer solutions that address one level of scope, and since levels of scope are coconstitutive, their single-scope solutions may be unsuccessful. Genre tracing, on the other hand, recognizes that the levels are coconstitutive and that destabilizations at one level can coconstitute destabilizations at other levels.

For example, in the study of traffic workers in chapter 4, I found that destabilizations tended to cluster around one particular genre in the ecology, the node map. This genre is a hybrid (see chapter 5) of the genre of the road map, used in traditional accident location and analysis, and the genre of the node-link system, used in computerized work. These parent genres had developed separately to mediate different activities, and assume different problem-solving strategies, cultural assumptions, and ideologies. And since these activities are mediated by entire genre ecologies, when the genres of the map and the node-link system were hybridized, they each dragged in other genres in their separate ecologies: the map brought in report forms, colored pins, and writing implements, while the node-link system brought in punch cards, dialog boxes, and database queries. Each genre, its assumptions, and its linkages are preserved in the resulting hybrid.